

Hondo

Reference ID

Origin: California, USA

The sample analyzed by ESD was identified as 'Hondo', but is more similar to Hondo Monterey than to Hondo Blend.

API Gravity

19.6

ESD 91

Equation(s) for Predicting Evaporation

$\%Ev = (1.49 + 0.045T)\ln(t)$
Where %Ev = weight percent evaporated; T = surface temperature ($^{\circ}\text{C}$); t = time (minutes)

ESD 96

Sulphur (weight %)

Evaporation

(volume %)

0	4.30	ESD 93
17	4.60	
32	4.80	

Water Content (weight %)

Evaporation

(volume %)

0	1.5	ESD 98
17	0.1	
32	<0.1	

Flash Point ($^{\circ}\text{C}$)

Evaporation

(volume %)

0	-5	ESD 91
17	71	ESD 92
32	>90	

Density (g/mL)

Evaporation

(volume %)

Temperature

($^{\circ}\text{C}$)

0	0	0.9461	ESD 91
	15	0.9356	
17	0	0.9780	
	15	0.9674	
32	0	0.9976	
	15	0.9881	

Pour Point ($^{\circ}\text{C}$)

Evaporation

(volume %)

0	-15	ESD 91
17	3	
32	21	

Dynamic Viscosity (mPa·s or cP)

Evaporation

(volume %)

Temperature

($^{\circ}\text{C}$)

0	0	3507	ESD 91
	15	735	
17	0	110500 (a)	
	15	172600 (b)	
		9583	

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Dynamic Viscosity (mPa·s or cP)

Evaporation (volume %)	Temperature (°C)			
32	0	83080000	(c)	ESD 91
	15	449700		

Shear rate = (a) 10/s; (b) 1/s; (c) 0.001/s

Emulsion Formation

Evaporation (volume %)	Visual stability	stable	ESD 98
0	Viscosity (mPa·s)	110000	
	Complex modulus (Pa)	920	
	Water content (wt %)	81	
17	Visual stability	stable	
	Viscosity (mPa·s)	190000	
	Complex modulus (Pa)	1300	
	Water content (wt %)	66	
32	Visual stability	unstable	

Chemical Dispersibility (volume %)

Evaporation (volume %)			
0	Corexit 9500	8	ESD 97
	Corexit 9527	5	ESD 91
	Dasic LTS	0	
	Enersperse 700	4	ESD 96
17	Corexit 9500	6	ESD 98
	Corexit 9527	0	ESD 96
	Dasic LTS	0	
	Enersperse 700	0	
32	Corexit 9500	4	ESD 98
	Corexit 9527	0	ESD 96
	Dasic LTS	0	
	Enersperse 700	0	

Hydrocarbon Groups (weight %)

Evaporation (volume %)			
0	Saturates	33	ESD 94
	Aromatics	31	
	Resins	24	
	Asphaltenes	12	
	Waxes	4	ESD 98
17	Saturates	27	ESD 96
	Aromatics	33	
	Resins	29	
	Asphaltenes	12	
	Waxes	4	ESD 98
32	Saturates	27	ESD 96
	Aromatics	28	
	Resins	32	
	Asphaltenes	13	
	Waxes	4	ESD 98

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Adhesion (g/m²)

Evaporation (volume %)				
0		79	SD = 6	ESD 96
17		124	SD = 12	
32		437	SD = 40	

Volatile Organic Compounds (ppm)

Evaporation (volume %)				
0	Benzene	870		ESD 94
	Toluene	2200		
	Ethylbenzene	1190		
	Xylenes	2570		
	C3-benzenes	4130		
	Total BTEX	6830		
	Total VOCs	10960		
17	Benzene	40		
	Toluene	110		
	Ethylbenzene	340		
	Xylenes	850		
	C3-benzenes	2500		
	Total BTEX	1340		
	Total VOCs	3840		
32	Benzene	0		
	Toluene	0		
	Ethylbenzene	0		
	Xylenes	0		
	C3-benzenes	0		
	Total BTEX	0		
	Total VOCs	0		

Surface Tension (mN/m or dynes/cm)

Evaporation (volume %)	Temperature (°C)		
0	0	30.6	ESD 91
	15	29.2	
17	0	NM	
	15	30.3	
32	0	NM	
	15	NM	

Oil/Salt Water Interfacial Tension (mN/m or dynes/cm)

Evaporation (volume %)	Temperature (°C)		
0	0	26.6	ESD 91
	15	15.8	
17	0	NM	
	15	22.8	
32	0	NM	
	15	NM	

Oil/Fresh Water Interfacial Tension (mN/m or

Evaporation (volume %)	Temperature (°C)		
0	0	28.3	ESD 91
	15	22.5	
17	0	NM	
	15		

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Oil/Fresh Water Interfacial Tension (mN/m or

Evaporation (volume %)	Temperature (°C)		
17	15	29.8	ESD 91
32	0	NM	
	15	NM	

Boiling Point Distribution (weight %)

Evaporation (volume %)	Boiling Point (°C)	Weight %	
0	40	2	ESD 96
	60	3	
	80	5	
	100	6	
	120	6	
	140	8	
	160	10	
	180	12	
	200	14	
	250	20	
	300	26	
	350	33	
	400	41	
	450	48	
	500	56	
	550	63	
	600	70	
	650	77	
	700	83	
17	140	1	
	160	2	
	180	3	
	200	5	
	250	11	
	300	18	
	350	27	
	400	35	
	450	44	
	500	52	
	550	61	
	600	68	
	650	76	
	700	83	
32	250	2	
	300	9	
	350	19	
	400	28	
	450	38	
	500	48	
	550	57	
	600	65	
	650	74	
	700	81	

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Boiling Point Distribution (°C)

Evaporation (volume %)	Weight %	Boiling Point (°C)	
0	5		
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		ESD 94
	50		
	55		
	60		ESD 96
	65		
	70		
	75		
	80		
	85		
17	5		
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
32	5		
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		

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Metals (ppm)

Evaporation
(volume %)

0	Barium	0.3	Cao 92
	Chromium	<1.5	
	Copper	<0.6	
	Iron	30.5	
	Lead	<4	
	Magnesium	5.4	
	Molybdenum	2.3	
	Nickel	75.0	
	Titanium	1.6	
	Vanadium	196.0	
	Zinc	0.5	
17	Barium	0.3	
	Chromium	2.3	
	Copper	0.7	
	Iron	3.3	
	Lead	<	
	Magnesium	5.6	
	Molybdenum	<0.6	
	Nickel	80.4	
	Titanium	2.0	
	Vanadium	218.0	
	Zinc	<0.6	
32	Aluminum	7.8	
	Barium	0.3	
	Cadmium	<0.5	
	Calcium	99.5	
	Chromium	<1.5	
	Cobalt	<1	
	Copper	1.5	
	Iron	3.0	
	Lead	<	
	Magnesium	9.1	
	Manganese	<0.3	
	Mercury	<15	
	Molybdenum	0.6	
	Nickel	88.0	
	Selenium	<15	
	Strontium	0.9	
	Tin	<15	
	Titanium	2.0	
	Vanadium	228.0	
	Zinc	<0.6	

Aqueous Solubility (mg/L)

Room temperature 21 (a) ESD 91

(a) fresh water

Acute Toxicity of Water Soluble Fraction (mg/L)

Test Organism 12 (a) Harris 94

48h LC50

Daphnia magna

(a) results based on GC purge-and-trap analysis